ECONOMIC UPDATE

REGIONS

November 2017

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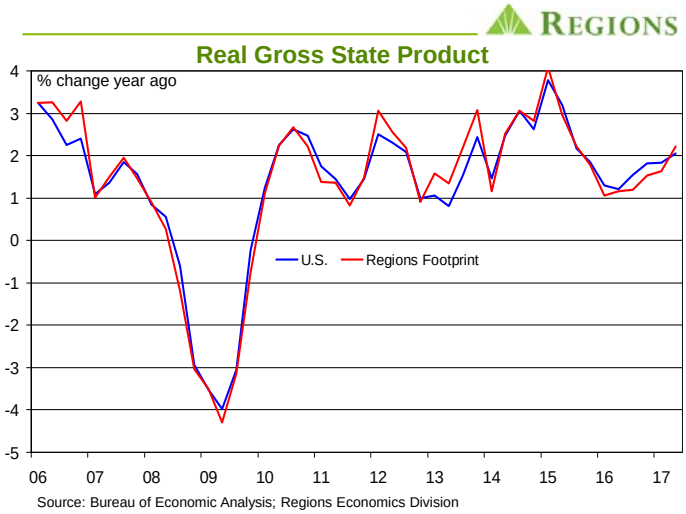
Q2 2017 Gross State Product: Regions Footprint

As a counterpart to the national data on Gross Domestic Product, the Bureau of Economic Analysis (BEA) produces state level data to measure the market value of all goods and services produced by the labor and property located within each state. This measure is known as Gross State Product, or, GSP. As is the case with the GDP data, the GSP data are reported in both nominal and real terms, the former measuring gross output in current dollar terms and the latter measuring gross output in constant dollar (i.e., adjusted for price changes) terms. GSP is measured on an incomes basis, i.e., by aggregating the incomes earned by the various factors of production and the various costs of production. In other words, GSP is the sum of labor income (wages, salaries, and benefits) earned by workers, capital income (income earned by business owners ranging from sole proprietors to shareholders of large corporations as well as returns on capital), and business taxes. Unlike GDP, which can be measured on an incomes basis or an expenditures basis, there is no equivalent measure of GSP on an expenditures basis.

Given that GSP is measured on an incomes basis and that labor earnings comprise the bulk of income, the GSP data are basically a derivative of the state level data on employment and income (note there is also a metro area counterpart measured in the same manner). This, coupled with the fact that the GSP data come with a lengthy lag, is why we devote much more attention to the more timely state level data on employment and income. In other words, the trends apparent in the GSP data largely mirror those we identify and analyze in our regular reviews of the state level employment and income data, particularly the annual benchmark revisions to the data on nonfarm employment and the comprehensive annual data on state level personal income which include data on earnings by industry. That said, it can nonetheless be useful to go through the details of the GSP data, particularly as the GSP data offer an intuitive means of comparing industrial composition across individual states as well as the industry drivers of overall economic growth within a given state.

In what follows, we'll look at the GSP data for the states within the Regions footprint, which allows us to compare relative rates of growth across the individual states and see how growth for the footprint stacks up against growth for the U.S. economy as a whole. We'll also take a look at what industries are driving growth in each state, which can of course help shed light on growth differentials across states. Again, while these patterns are apparent in the state level employment and income data in a more timely manner, the GSP data are for some a more useful lens through which to look at these broader trends. Moreover, while the data on employment and income come with a much longer history than the GSP data – the quarterly GSP data go back to only 2005 – one advantage the GSP data have is that having the GSP data on both a real and nominal basis allows us to segregate the components of changes in the nominal GSP data, i.e., inflation versus growth in physical output, even if inflation has not been much of a factor over the past several years.

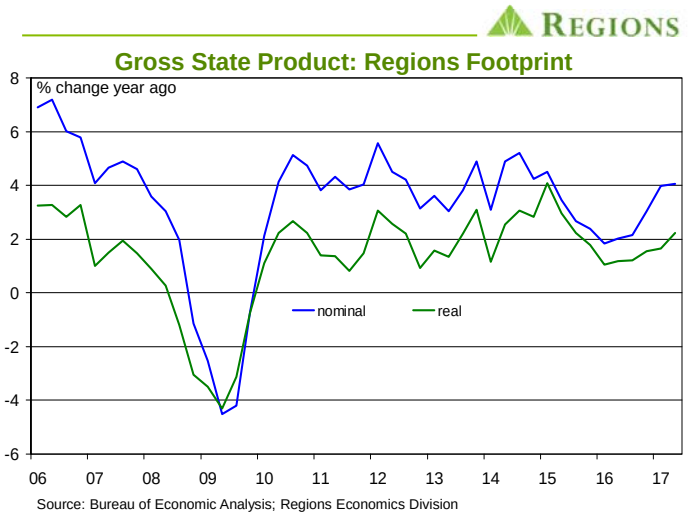


Source: Bureau of Economic Analysis; Regions Economics Division

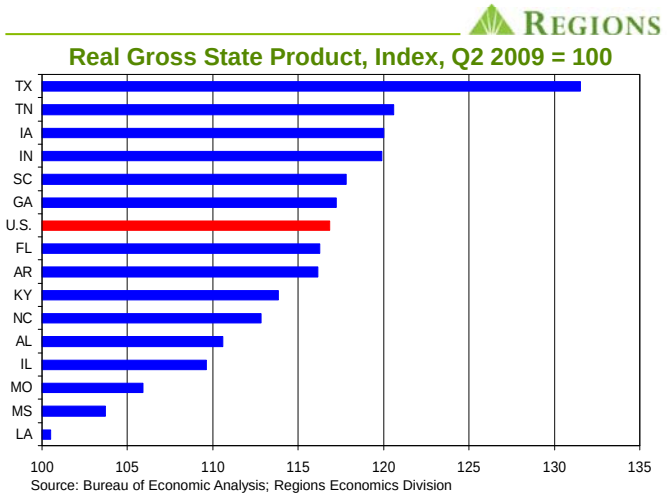
As a side note, due to measurement issues the U.S. aggregate for Gross State Product does not exactly match Gross Domestic Product, but the two are very close. The chart to the side shows year-on-year growth in real GSP for both the U.S. and the Regions footprint as a whole, instead of the more common but often maddening convention of seasonally adjusted annualized growth. Either way, the bottom line is the same – while the current expansion is the third longest (soon to be second longest) expansion on record, it is also the slowest. The GSP data show growth for the Regions footprint as a whole has matched growth for the U.S. as a whole. Since Q1 2010, when year-on-year growth in real GSP turned positive, average growth for both the U.S. as a whole and the Regions footprint has been 2.0 percent. As of Q2 2017, real GSP for both the U.S. as a whole and the Regions footprint stood roughly 12 percent above the pre-recession peak.

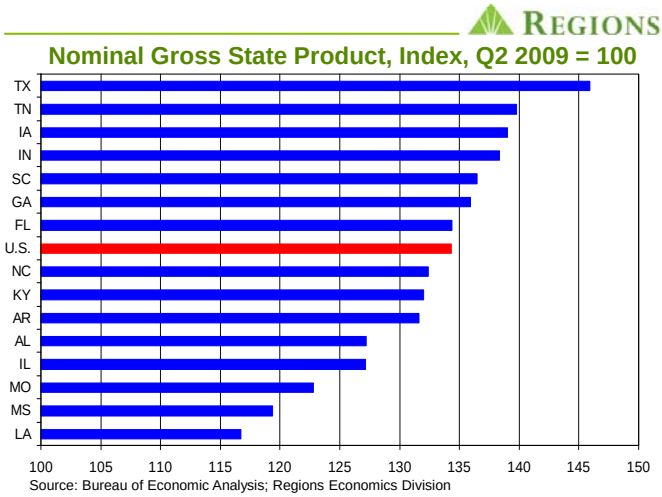
Regions Financial Corporation, 1900 5th Avenue North, 17th Floor, Birmingham, Alabama 35203
Richard F. Moody, Chief Economist • 205.264.7545 • richard.moody@regions.com

To our earlier point that inflation has been fairly tame over the course of the current expansion, the chart to the side compares growth in nominal and real GSP for the Regions footprint as a whole. While it can be argued that growth in real GSP is more relevant as a gauge of economic growth over time as it measures growth in actual output, or in this case income, there are reasons to focus on growth in nominal GSP. We often note that for the U.S. economy as a whole, growth in nominal GDP is a good proxy for growth in top-line corporate revenue. One can make a similar, though not perfect, argument for growth in nominal GSP. Moreover, to the extent one sees growth in GSP as a reasonable standard by which to assess metrics, such as loan growth, which are reported in nominal terms, the nominal GSP data are the proper basis for comparison. Either way, though, one cannot escape the conclusion that growth over the current expansion has been well below growth seen in past expansions.



As we frequently note with a variety of economic and demographic data series, there are seldom large divergences in growth rates for the Regions footprint as a whole and the U.S., but when one looks at individual states (or metro areas) within the footprint, there are differences, often significant differences. The GSP data are no exception to this general rule, as can be seen in the following charts, the first of which shows growth in real GSP over the course of the current expansion and the second of which shows growth in nominal GSP.

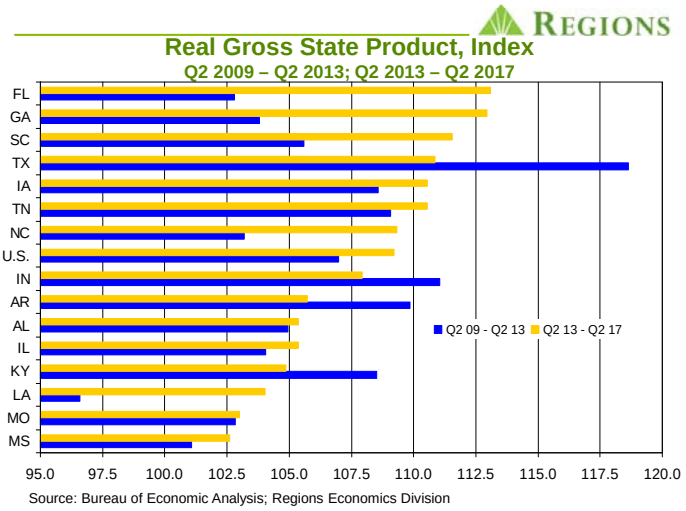




The charts show growth in real and nominal GSP from Q2 2009 through Q2 2017. Recall that the 2007-09 recession officially ended in Q2 2009, hence our choice of this as our base period. As seen in the charts, Texas has easily posted the fastest growth in GSP, real or nominal, of any of the states within the Regions footprint, with real GSP having increased by 31.52 percent over the course of the expansion, compared to growth of 16.86 percent for the U.S. as a whole. In contrast, as of Q2 2017 real GSP in Louisiana stood just 0.49 percent above the level of real GSP at the end of the 2007-09 recession, while in Mississippi real GSP in Q2 2017 was only 3.72 percent higher than it was at the end of the 2007-09 recession. For what it's worth, the gap between growth in nominal and real GSP over the Q2 2009 through Q2 2017 period is about 17.49 percent as measured by the deflators used in the GSP data.

For those who regularly follow our analysis of the employment and income data, it comes as no surprise to see Texas at the top of the GSP growth rankings, as amongst the states in the Regions footprint Texas has consistently posted the first or second most rapid job and income growth. What may be surprising, however, is that Florida and Georgia, the other two states that along with Texas typically comprise the top-three states in terms of job and income growth, do not fare better in GSP growth over the course of the current expansion. As seen in the charts, both Florida and Georgia have seen growth in real and nominal GSP right in line with U.S. averages since the end of the 2007-09 recession. In contrast, Iowa and Indiana typically rank in the middle of the Regions pack in terms of job and income growth, yet have seen the third and fourth fastest growth in GSP since the end of the 2007-09 recession, with real GSP having grown by 20.00 percent in Iowa and 19.88 percent in Indiana during the current expansion.

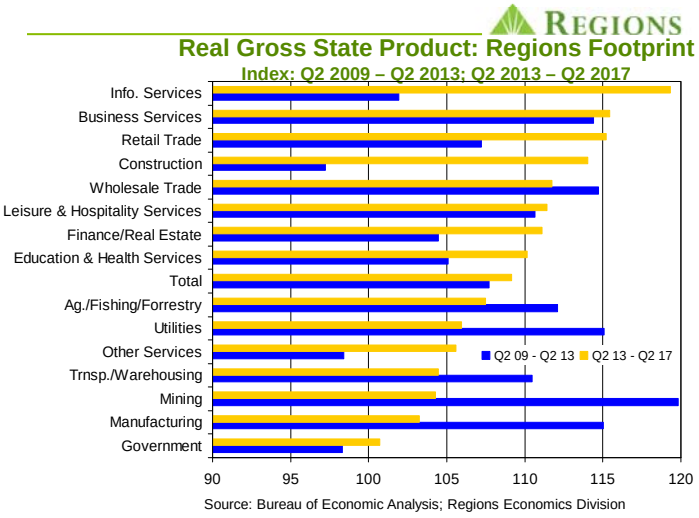
We'd point to two key factors to help put the rankings in the above charts in perspective – timing and industry mix. While the end of the 2007-09 recession is a perfectly reasonable starting point to compare growth over the course of the current expansion, the reality is that not all states started on equal footing, i.e., some suffered more than others during the downturn, and even though the recession officially ended in Q2 2009, that was not necessarily the cyclical trough in each individual state. Florida is a prime example of our point. During the recession, Florida saw a peak-to-trough decline in real GSP of 11.12 percent, easily the most severe of any state in the footprint and far more severe than the 4.25 percent peak-to-trough decline seen nationally. Moreover, while Q3 2009 marked the first official quarter of recovery/expansion for the U.S. as a whole, Florida saw its GSP contract further during this quarter, i.e., the state's economy got a later start on the recovery than was the case for the U.S. as a whole. Florida's economy was hit extremely hard by the housing market meltdown, while its above-average exposure to consumer sensitive sectors such as retail trade and leisure & hospitality services acted as a drag in the early phases of the recovery during which energy, manufacturing, and trade were primary drivers of overall growth.



As the recovery endured and ultimately transitioned to expansion, however, Florida's economy gathered pace. This can be seen in the chart to the side, in which real GSP growth over the eight years of the current expansion is split into halves. The blue bars show growth in real GSP over the Q2 2009 through Q2 2013 period, while the gold bars show real GSP growth over the Q2 2013 though Q2 2017 period. Over the former period, Florida's real GSP grew by just 2.79 percent, compared to growth of 6.99 percent for the U.S. as a whole. But, over the latter period, Florida saw the fastest real GSP growth – 13.10 percent – of any state in the Regions footprint, easily outpacing the 9.22 percent growth for the U.S. as a whole. As noted above, Florida's exposure to housing and consumer sensitive sectors acted as a drag on growth in the early phases of the current expansion but has since transitioned into a meaningful tailwind behind growth.

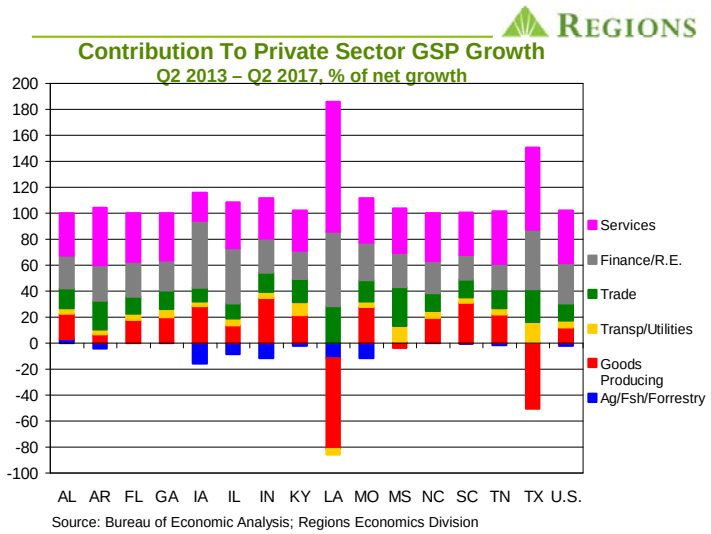
As is apparent in the above chart, other states have seen differentials, some quite pronounced, in GSP growth rates over the two halves of the current expansion. Georgia, for instance, saw real GSP growth of 3.80 percent over the first four years of the current expansion but over the most recent years real GSP in the state has grown by 12.95 percent. Indiana, as noted above, has seen the third strongest real GSP growth in the footprint since the end of the recession, but growth in the state was much more rapid over the first half of the current expansion than was the case over the second half, with the state's far above-average exposure to manufacturing acting as a boost to growth in the early phases. But, while that exposure has not been as significant a lift over the most recent four-year period, the stepped-up pace of growth in the manufacturing sector over the past several months, as seen in the ISM Manufacturing Index or the data on capital spending, suggests Indiana should see faster real GSP growth as the data for the back half of 2017 become available.

We have routinely cited the lack of a synchronized expansion across different sectors of the U.S. economy as one of the culprits behind the relative lack of vigor over the current expansion. While we have made the same point with the state level data on employment and income, the GSP data make that same point in a perhaps more tangible fashion. We've aggregated Gross State Product by industry group for the Regions footprint and done the same split across the two four-year halves of the current expansion, and the results are seen in the chart to the side. Note that over the first four-year period of the current expansion mining, manufacturing, natural resources (comprised of agriculture, fishing, forestry), and utilities were key drivers of the expansion for the footprint as a whole. Over the second four-year period, however, growth in each of these industry groups slowed, in some cases sharply, while other drivers of growth have emerged, most notably construction, information services, and health care, while business services and wholesale trade have been consistently strong over the entire eight years of the current



Regions Financial Corporation, 1900 5th Avenue North, 17th Floor, Birmingham, Alabama 35203
Richard F. Moody, Chief Economist • 205.264.7545 • richard.moody@regions.com

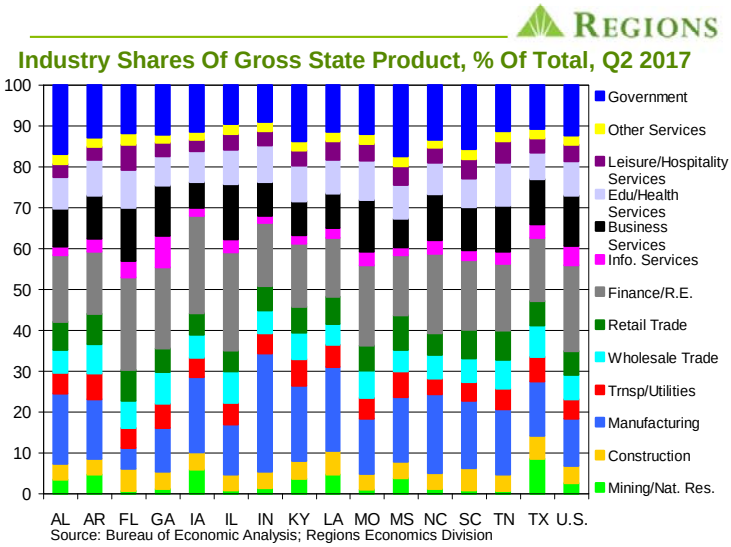
expansion. We'll also note that the data for the U.S. as a whole show similar patterns, i.e., the same industry groups that were the main drivers in the first four years of the expansion made significantly smaller contributions over the second half. The heavier exposure to mining and manufacturing, among other industry groups, within the Regions footprint relative to the U.S. as a whole help explain why real GSP growth in the footprint was nominally faster in the earlier phases of the expansion than was the case for the U.S. as a whole as well as why that growth differential has flipped over the past few years.



Source: Bureau of Economic Analysis; Regions Economics Division

With our focus on the most recent four-year period, i.e., Q2 2013 through Q2 2017, we've estimated the industry contribution to, or in some cases drag on, private sector GSP growth for each state in the Regions footprint and the U.S. as a whole, as seen in the chart to the side. Note that the vertical sum of the bars for each state equals 100 percent, so while natural resources have been a consistent drag on growth across states (though hardly visible for Florida) outsized contributions in other sectors of the economy have helped fill in the void. The buckets shown in the chart are fairly broad (don't worry, that's about to change . . .) but are nonetheless useful in segmenting between the goods producing industries (i.e., mining, manufacturing, and construction) from service providing industries (business services, health and education, leisure & hospitality), and other sectors such as finance, trade, and transportation.

One striking element of the data is the extent to which Louisiana's economy has been held back by the contraction in output amongst the goods producing industries, which again is visible in the state level data on employment and income. At the same time, diminished agricultural output over recent years thanks in part to weak pricing and stepped up foreign competition, has impacted the state's transportation sector with fewer goods being shipped to the Port of New Orleans for export. The sharp decline in energy prices in late-2014 led to sharp declines in output in the broad mining sector in Louisiana and Texas, and is the key factor behind the sizeable drag on growth from the goods producing industries, while a decline in energy related manufacturing has played a role here as well. The downturn in the coal industry has weighed on output growth in the goods producing industries in Alabama and Kentucky, but in each state exposure to motor vehicle manufacturing has more than compensated and the goods producing industries have been net contributors to growth despite the declines in mining output. As we have noted in our discussions of the industry earnings details of the annual personal income data, the sagging fortunes of agriculture have been a material drag on Iowa's economy. What may come as a surprise, however, is the extent to which financial services has become such a key driver of the state's economy, with the Des Moines metro area having one of the highest concentrations of financial services employment in the U.S. To our earlier point, Indiana far and away has the heaviest exposure to manufacturing of any state in the footprint, which helps account for it seeing the largest contribution to overall growth from the goods producing industries.



Source: Bureau of Economic Analysis; Regions Economics Division

While by no means a complete tour through the details of the data for each state, the above discussion at least helps highlight the importance of understanding the industrial make-up of a given state (or metro area) and how that make-up plays into the economic fortunes of a given geography. This is a main reason we caution against drawing broad inferences on the basis of the footprint as a whole. Clearly, growth varies, often sharply, from state to state, and even within a given state some industry groups fare better than others. Along these lines, the chart to the side shows a more detailed look at the industrial make-up of each of the states in the Regions footprint relative to that of the U.S. as a whole. The chart shows the industry breakdown of GSP as of Q2 2017. Obviously this is a snapshot at a single point in time, but understanding how growth has evolved over time sheds light on how we arrived at this point.

For instance, construction accounted for 5.41 percent of total GSP in Florida in Q2 2017, but prior to the implosion of the housing market this share was much higher – over eight percent in 2006. This is consistent with the employment data showing that the state currently has almost 180,000 fewer construction jobs (this was the figure prior to Hurricane Irma, which temporarily depressed reported construction payrolls) than at the pre-recession peak. Similarly, mining and natural resources accounted for 8.68 percent of Q2 2017 GSP in Texas and 4.77 percent in Louisiana, but both shares are far lower than was the case before energy prices cratered in late-2014. Though, as noted above, manufacturing has mounted somewhat of a charge over the past several months, manufacturing output nonetheless accounts for a smaller share of overall GSP across the footprint than would have been the case in earlier decades. That decline has been even more pronounced in those states in which nondurable goods manufacturing, such as textiles, played a larger role than durable goods manufacturing, such as motor vehicle production.

Another transition, though still in its early phases, to watch in the GSP data stems from the changing nature of consumer spending. The retail trade sector accounted for just over six percent of GSP for the Regions footprint as a whole in Q2 2017, a share that has slowly drifted lower, which can be expected to continue going forward as the incidence of online shopping continues to expand. To some extent, the fading share of retail trade will be compensated for by a rising share of transportation, warehousing, and distribution, which accounted for just under four percent of GSP for the footprint as a whole in Q2 2017 (this share has been slowly rising). But, our view is that there will be a geographic mismatch between those areas shedding retail trade employment and income and those areas adding employment and income in transportation, warehousing, and distribution. As such, those states in which retail trade accounts for a higher share of GSP, such as Mississippi (8.5 percent), Florida (7.5 percent), and Arkansas (7.4 percent) could be more vulnerable, though it is reasonable to expect Florida to see faster growth in the logistics associated with online shopping.

Government accounted for 16.86 percent of GSP in Alabama as of Q2 2017, and for 17.46 percent of GSP in Mississippi, two of the states in the footprint with the slowest overall GSP growth. This is by no means to imply a causal relationship, but it does point to how swings in government spending, including military spending, can impact the economy of a given state, particularly when growth in the private sector is lagging. Moreover, given what are less than sunny prospects for state government budgets in many states, as we've discussed in our quarterly updates of state government finances, it could be that over coming years the public sector becomes more of a drag on private sector activity.

Ideally, a given state or metro area will have an economy sufficiently diverse to absorb these types of structural, as opposed to cyclical, shifts that naturally occur over time in any economy. We know, however, this is not always the case. Using the industry delineations shown in the preceding chart, four states within the footprint have over half of their Gross State Product concentrated in the three largest industry clusters – Alabama (50.3 percent), Iowa (53.5 percent), Indiana (53.4 percent), and North Carolina (52.1 percent). As noted earlier, Indiana's high degree of concentration is largely a function of its exposure to manufacturing, which in the early phases of this expansion and again over the past few quarters has been to the state's benefit but which could easily flip to being a material drag for reasons such as shifts in consumer or business spending patterns or more restrictive global trade policies. In contrast, the three highest industry concentrations in Texas accounted for just 39.9 percent of total GSP as of Q2 2017, making it easily the most economically diverse state in the Regions footprint, By way of comparison, for the U.S. as a whole the "top-three" industry share of total GSP was 45.4 percent as of Q2 2017.

The Gross State Product data offer a useful lens through which to view shifting patterns, both across states and across industry groups within a given state, in economic activity. As we've noted throughout, many of these trends are apparent in the state level data on income and employment, data that are more timely than the GSP data. Still, there is value in analyzing the GSP data as they more readily lend themselves to helping identify those specific industry groups that offer opportunities and those that pose potential downside risks.

Real Gross State Product, Regions Footprint

percentage change

STATE	Q2 2009 - Q2 2017	Q2 2009 - Q2 2013	Q2 2013 - Q2 2017
Alabama	10.58	4.94	5.37
Arkansas	16.15	9.84	5.74
Florida	16.26	2.79	13.10
Georgia	17.24	3.80	12.95
Iowa	20.02	8.57	10.55
Illinois	9.62	4.05	5.35
Indiana	19.88	11.06	7.94
Kentucky	13.83	8.53	4.88
Louisiana	0.49	<3.41>	4.04
Missouri	5.90	2.82	2.99
Mississippi	3.72	1.09	2.60
North Carolina	12.82	3.19	9.33
South Carolina	17.82	5.60	11.56
Tennessee	20.58	9.09	10.54
Texas	31.52	18.64	10.86
U.S.	16.86	6.99	9.22

Source: Bureau of Economic Analysis; Regions Economics Division